ARTICLE 6 - RESOURCE PROTECTION

6.1.0 OTHER ENVIRONMENTALLY SENSITIVE LANDS

6.1.1 **Applicability** Resource protection standards shall apply to all subdivisions and development in all zoning districts.

6.1.2 **Slopes** Areas that are excess in of fifteen (15) percent slope shall be protected as follows:

Slope	Min. Percent of Site to Remain Undisturbed
15% - 25%	40
>25% - 35%	100

6.1.3 **Sinkholes** Sinkholes are formed from the action of rain, stormwater runoff and ground water on limestone strata. Development of any parcel which contains sinkholes must be designed and approved by the Town Engineer.

6.1.4 **Hilltops** Development on hilltops increases runoff, erosion, sedimentation and the potential for slope destabilization. Also, because of their high visibility, their development degrades the rural character of Nolensville. See Article 1.4.2 for a definition and illustration of hilltops. A minimum of 80 percent of the hilltop area shall be maintained as open space.

A. **Design Standards** Buildings located on a hilltop shall be a maximum of 15 feet in height, or half the average canopy height of surrounding trees, whichever is greater. Clearing activity shall be restricted to the central area of the hilltop except as required for access. Stormwater drainage shall be conveyed to the bottom of the hill by an erosion-resistant channel.

6.1.5 **Ridgetops** Development of ridgetops increases the potential for downslope erosion, sedimentation and soil destabilization. Also, because of their high visibility, their development degrades the rural character of Nolensville. See Article 1.12.0 for a definition and illustration of ridgetops. These conditions require that a minimum of 50 percent of the ridgetop area be maintained as open space.

A. **Design Standards Buildings** located on the outer edges of ridgetops shall be a maximum of 15 feet in height, or half the average canopy height of surrounding trees, whichever is greater. If a second, interior row of development occurs, then the maximum building height shall be limited to 25 feet, or half the canopy height of surrounding vegetation, whichever is greater. Permitted clearing shall occur near the center of the ridgetop except as required for access. Stormwater drainage shall be conveyed to the bottom of the ridge by an erosion-resistant channel.

6.2.0 RESOURCE MANAGEMENT

6.2.1 **Applicability** Resource management regulations shall apply to all subdivisions and development in all zoning districts.

6.2.2 **Septic Disposal Areas** The plat of subdivision shall designate the areas to be used for disposal fields. Prior to any earth moving permits being granted, the landowner or developer shall erect, and have inspected, fencing to protect the disposal area from disruption during the construction process. Owners and developers are encouraged to require bonding by contractors to protect themselves against damage to the disposal area and to encourage greater care on the part of contractors. Approval by all appropriate governmental entities is required for septic areas.

6.2.3 **Stormwater Management** Each development shall provide for the on-site or off-site detention of excess stormwater runoff resulting from that development. For the purposes of this ordinance, "excess stormwater runoff" shall include all increases in stormwater resulting from the following: (1) an increase in the impervious surface of the site; (2) changes in soil absorption caused by compaction during development; (3) modifications in contours, including the filling or draining of small depressional areas, alterations of drainageways or regrading of slopes; (4) destruction of forest; (5) alteration of drainageways or installation of collection systems to intercept road flows or to replace swales or other drainageways; or (6) the alteration of subsurface flows, including any groundwater dewatering or diversion practices such as curtain drains, compared with the site in its natural state.

A. **Stormwater Detention** To minimize adverse affects of development, detention of stormwater is required for development subject to review by the Town Engineer. However, because detention in downstream areas of a large watershed can cause increased peak flows in downstream channels, the Town reserves the right to alter the detention criteria and to prohibit or not require it where it is not in the best interest of the Town. This decision shall be based upon sound engineering judgment and/or studies. The release rates from any detention facility should approximate that of pre-developed site conditions. Multi-stage detention is required for the 1-year, 2-year, 5-year and 10-year design storm events with emergency overflow capable of handling the 100-year storm event except where waived or altered by the Town Engineer. Detention facilities will not be permitted on lots within residential subdivisions unless approved by the Town Engineer. Detention facilities must be located within drainage easements.

B. **Water Quality** Developments shall address stormwater quality. The first flush volume (first 1-inch of runoff) shall be captured and then slowly released. The release rate should be over a 24 to 48 hour period. Detention facilities or other techniques may be used if acceptable to the Town Engineer.

C. **Design Procedures** Stormwater management facilities shall be designed using a rainfall-runoff model, "HEC-1, Flood Hydrograph Package," and "HEC-2, HEC-RAS, Water Surface Profiles," by the U.S. Army Corps of Engineers or other methodologies approved by the Town. In accordance with paragraph A above, the developer must define downstream property owners that would be affected by

increased runoff. In addition, the developer must define the runoff effects of his development combined with future development scenarios supplied by the Town. In the event that the proposed development individually, or in combination with approved future development scenarios, increases the frequency and/or duration of existing flooding problems or creates new flooding problems, the developer will define solutions to such problems. If, in the determination of the Mayor or his designee or other applicable regulatory agency using appropriate calculations, detention of stormwater on-site is unnecessary or could cause adverse effects to the overall hydraulic system, an alternative proposal may be considered.

D. **Design Regulations** The design of all detention facilities and improvements required by this Article shall be reviewed and approved by the Mayor or his designee. Detention/retention basins shall not be located within required front or side setbacks. Landscaping requirements are contained in Appendix B.

E. **Maintenance of Facilities** It is the responsibility of the developer to maintain all improvements until such time as maintenance is assumed by the Homeowners Association Covenants, through a maintenance agreement, or other document acceptable to the Town. Detention facilities should be designed to require minimal maintenance. Maintenance responsibilities shall be defined and shall be acceptable to the Town. A maintenance agreement must be executed, with wording acceptable to the Town, and recorded before the Town will approve the development plan or release the Grading Permit.

F. **Permit Required** A permit issued by the State of Tennessee shall be required for the approval of all stormwater management structures exceeding 20 feet in height and/or a storage volume of 25 acre-feet.

6.2.4 Inspection of Facilities

A. The developer's engineer shall be required to inspect all drainage and septic facilities under construction and certify their compliance with approved plans. The developer shall have as-built survey drawings provided of all detention facilities.

B. A registered professional engineer, employed by the Town, may inspect all drainage and septic facilities while under construction.

C. It shall be the responsibility of the developer to receive final approval, final inspection and a certificate of compliance from the Town.

D. When facilities are not constructed according to approved plans, the Town has the explicit authority to compel compliance and require correction of any situations, which are not according to approved plans.

6.3.0 GREENWAYS

Land Dedication Required of Owner as a Condition of Approval
Anytime a parcel of land affected by the Town's Greenway Master Plan is proposed for subdivision or site plan approval as provided in this ordinance the owner of the affected property must dedicate, as a condition of plan approval a twenty-five (25) foot wide easement along the proposed greenway to the Town of Nolensville.

An additional one (1) residential dwelling unit is allowed for each one thousand (1,000) feet of primary greenway trails/path that is constructed as part of a residential subdivision. The trail/path shall be a minimum of ten (10) feet wide and constructed of asphalt or similar acceptable material.